

Amendments to the Claims

Cancel Claims 1-5, 10-13.

Add Claims 19-23.

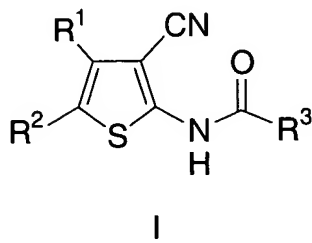
This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. – 5. (cancelled)

6. (currently amended) A compound ~~in accordance with claim 5~~ represented by formula

I:



or a pharmaceutically acceptable salt or solvate thereof wherein:

R<sup>1</sup> is selected from the group consisting of: H, C<sub>1-10</sub>alkyl, Aryl, Heteroaryl and

Heterocyclyl,

said alkyl, Aryl, Heteroaryl and Heterocyclyl being optionally substituted with one to four substituents independently selected from R<sup>6</sup>;

R<sup>3</sup> is selected from the group consisting of: C<sub>1-10</sub>alkyl and Aryl, said alkyl and Aryl being optionally substituted with one to four substituents independently selected from R<sup>6</sup>;

R<sup>4</sup> is selected from the group consisting of: H, C<sub>1-10</sub>alkyl, Aryl, Heteroaryl, Heterocyclyl, said alkyl, Aryl, Heteroaryl, and Heterocyclyl being optionally substituted with one to four substituents independently selected from R<sup>6</sup>;

R<sup>5</sup> is selected from the group consisting of: C<sub>1-10</sub>alkyl, Aryl, Heteroaryl and Heterocyclyl, said alkyl, cycloalkyl, Aryl Heteroaryl, and Heterocyclyl being optionally substituted with one to four substituents independently selected from R<sup>6</sup>;

or alternatively,  $R^4$  and  $R^5$  are taken together with the atoms to which they are attached and represent a ring of 5 to 8 members containing 0-2 heteroatoms independently selected from oxygen, sulfur and nitrogen, and optionally substituted with one to four substituents independently selected from  $R^6$ ;

$R^6$  is independently selected from the group consisting of halo,  $C_{1-7}$ alkyl, Aryl, Heteroaryl, Heterocyclyl,  $OR^7$ ,  $SR^7$ ,  $S(O)_mR^8$ ,  $S(O)_2OR^8$ ,  $S(O)_mNR^7R^8$ ,  $NO_2$ ,  $NR^7R^8$ ,  $O(CR^9R^{10})_nNR^7R^8$ ,  $C(O)R^8$ ,  $CO_2R^7$ ,  $CO_2(CR^9R^{10})_nCONR^7R^8$ ,  $OC(O)R^8$ ,  $CN$ ,  $C(O)NR^7R^8$ ,  $NR^7C(O)R^8$ ,  $OC(O)NR^7R^8$ ,  $NR^7C(O)OR^8$ ,  $NR^7C(O)NR^8R^9$ ,  $CR^7(NOR^8)$ ,  $(CR^9R^{10})_n$ -Aryl,  $(CR^9R^{10})_n$ -Heteroaryl,  $(CR^9R^{10})_n$ -Heterocyclyl,  $CF_3$  and  $OCF_3$ ;

wherein m is 0, 1 or 2 and n is an integer from 1 to 7, and the alkyl, Heterocyclyl, Aryl and Heteroaryl groups and portions are optionally substituted with 1-4 substituents selected from a group independently selected from  $R^{11}$ ;

$R^7$ ,  $R^9$  and  $R^{10}$  are independently selected from the group consisting of: H,  $C_{1-7}$ alkyl, Aryl,  $Ar-C_{1-10}$ alkyl and mono-, di- and tri- halo substituted  $Ar-C_{1-10}$ alkyl,

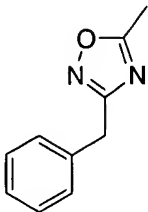
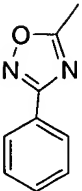
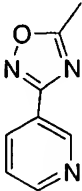
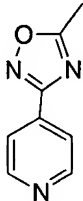
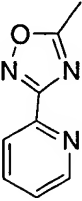
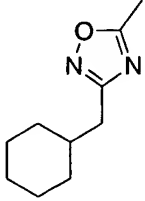
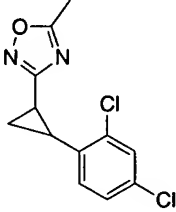
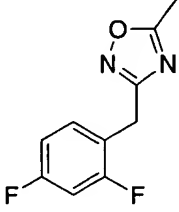
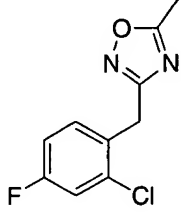
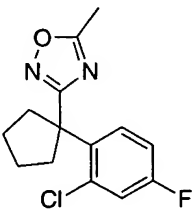
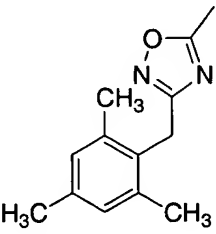
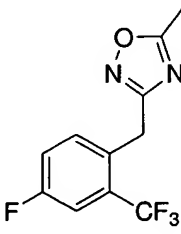
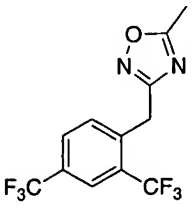
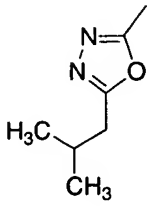
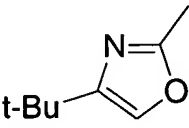
or one  $R^9$  and one  $R^{10}$  are taken together with the atoms to which they are attached and any intervening atoms and represent a ring of 3 to 8 members containing 0-2 heteroatoms independently selected from O, S and N;

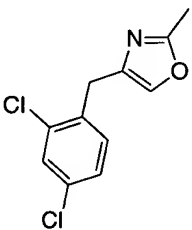
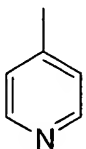
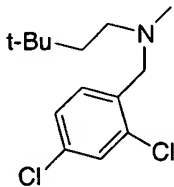
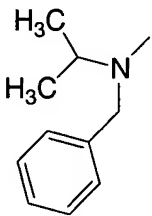
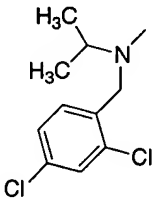
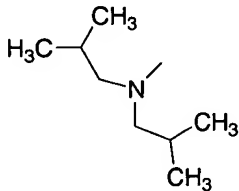
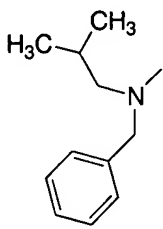
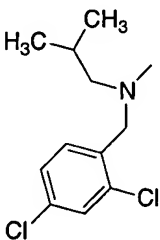
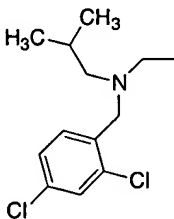
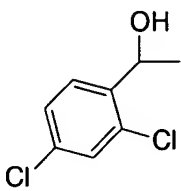
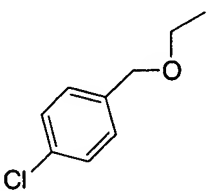
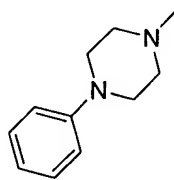
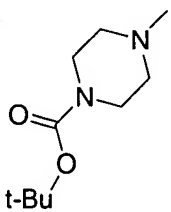
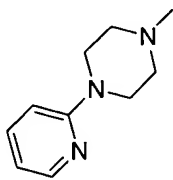
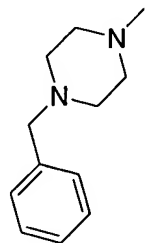
$R^8$  is selected from the group consisting of:  $C_{1-10}$  alkyl, Aryl and  $C_{1-10}$ alkyl-Aryl; and

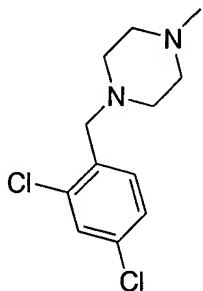
$R^{11}$  is selected from the group consisting of: halo, CN,  $C_{1-4}$ alkyl, Aryl,  $CF_3$  and OH;

wherein  $R^2$  is selected from the table below:

$R^2$		

		
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7. (currently amended) A compound in accordance with claim [[1]] 6 wherein  $R^3$  is  $C_{1-10}$ alkyl with 0-1  $R^6$  groups attached.

8. (currently amended) A compound in accordance with claim [[1]] 6 wherein  $R^4$  is H or  $C_{1-10}$ alkyl.

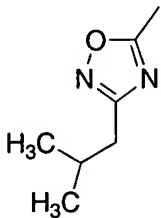
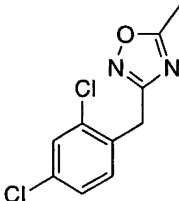
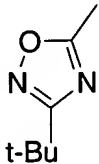
9. (currently amended) A compound in accordance with claim [[1]] 6 wherein  $R^5$  is  $C_{1-10}$ alkyl having 1-2  $R^6$  groups attached.

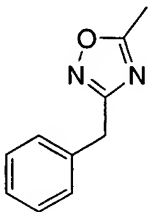
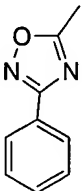
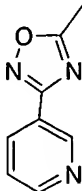
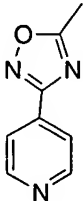
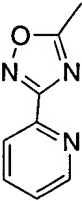
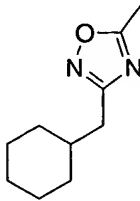
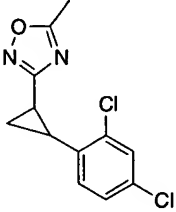
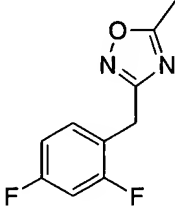
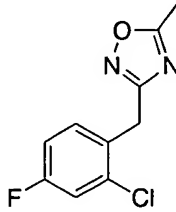
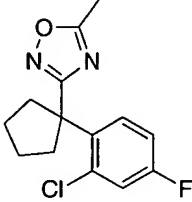
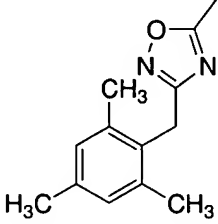
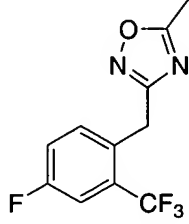
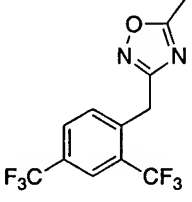
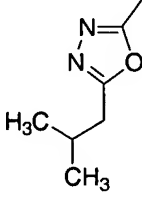
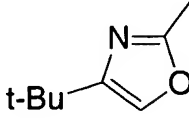
10. – 13. (cancelled)

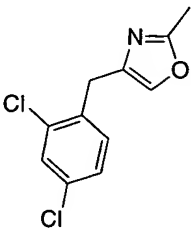
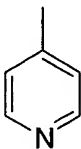
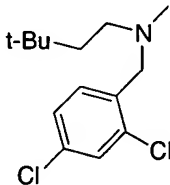
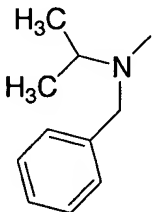
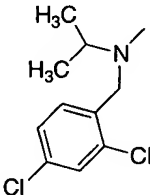
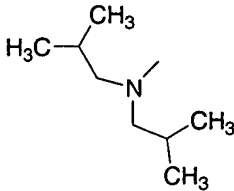
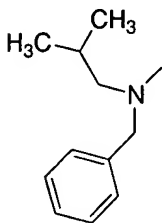
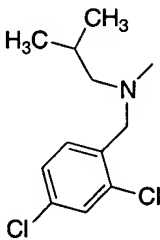
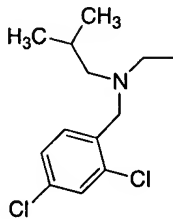
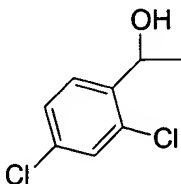
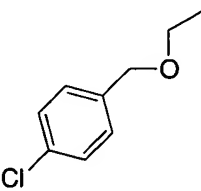
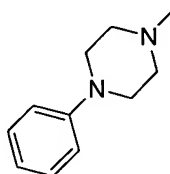
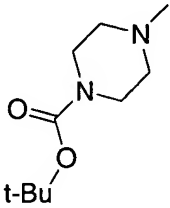
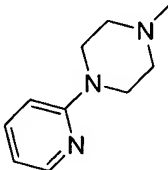
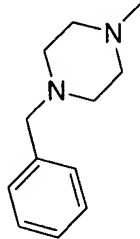
14. (currently amended) A compound in accordance with claim [[5]] 6 wherein:

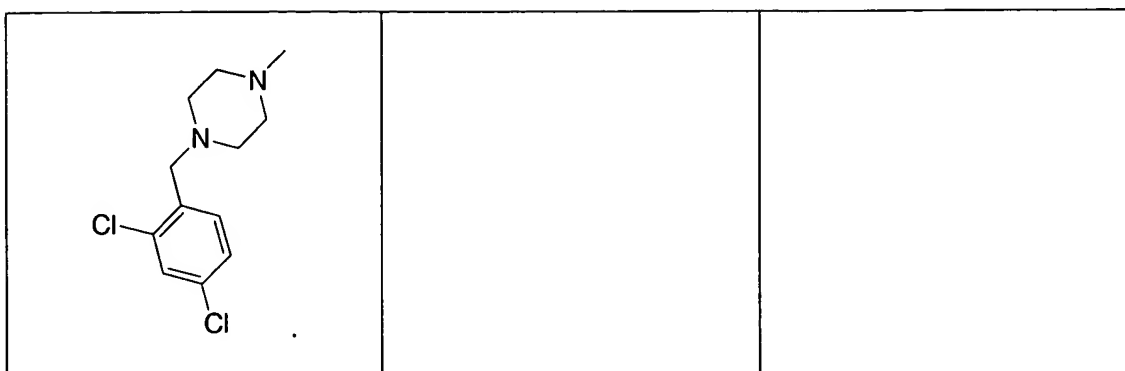
$R^1$  represents methyl;

$R^3$  represents 3-pentyl, and  $R^2$  is selected from the table below:

$R^2$		
		



15. (currently amended) A compound in accordance with claim [[1]] 6 selected from the group consisting of:
- N-[3-cyano-5-(3-isobutyl-1,2,4-oxadiazol-5-yl)-4-methylthien-2-yl]-2-ethylbutanamide;  
N-{3-cyano-5-[3-(2,4-dichlorobenzyl)-1,2,4-oxadiazol-5-yl]-4-methylthien-2-yl}-2-ethylbutanamide;  
N-[5-(3-tert-butyl-1,2,4-oxadiazol-5-yl)-3-cyano-4-methylthien-2-yl]-2-ethylbutanamide;  
N-[5-(3-benzyl-1,2,4-oxadiazol-5-yl)-3-cyano-4-methylthien-2-yl]-2-ethylbutanamide;  
N-[3-cyano-4-methyl-5-(3-phenyl-1,2,4-oxadiazol-5-yl)thien-2-yl]-2-ethylbutanamide;  
N-[3-cyano-4-methyl-5-(3-pyridin-2-yl-1,2,4-oxadiazol-5-yl)thien-2-yl]-2-ethylbutanamide;  
N-[3-cyano-4-methyl-5-(3-pyridin-3-yl-1,2,4-oxadiazol-5-yl)thien-2-yl]-2-ethylbutanamide;  
N-[3-cyano-4-methyl-5-(3-pyridin-4-yl-1,2,4-oxadiazol-5-yl)thien-2-yl]-2-ethylbutanamide;  
N-{3-cyano-5-[3-(cyclohexylmethyl)-1,2,4-oxadiazol-5-yl]-4-methylthien-2-yl}-2-ethylbutanamide;  
N-(3-cyano-5-{3-[1-(2,4-dichlorophenyl)cyclopropyl]-1,2,4-oxadiazol-5-yl}-4-methylthien-2-yl)-2-ethylbutanamide;  
N-{3-cyano-5-[3-(2,4-difluorobenzyl)-1,2,4-oxadiazol-5-yl]-4-methylthien-2-yl}-2-ethylbutanamide;  
N-{5-[3-(2-chloro-4-fluorobenzyl)-1,2,4-oxadiazol-5-yl]-3-cyano-4-methylthien-2-yl}-2-ethylbutanamide;  
N-(5-{3-[1-(2-chloro-4-fluorophenyl)cyclopentyl]-1,2,4-oxadiazol-5-yl}-3-cyano-4-methylthien-2-yl)-2-ethylbutanamide;  
N-{3-cyano-5-[3-(mesitylmethyl)-1,2,4-oxadiazol-5-yl]-4-methylthien-2-yl}-2-ethylbutanamide;  
N-(3-cyano-5-{3-[4-fluoro-2-(trifluoromethyl)benzyl]-1,2,4-oxadiazol-5-yl}-4-methylthien-2-yl)-2-ethylbutanamide;

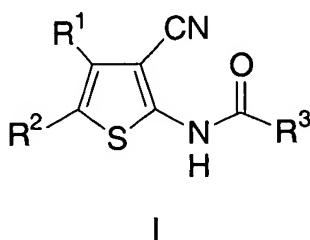
N-(5-{3-[2,4-bis(trifluoromethyl)benzyl]-1,2,4-oxadiazol-5-yl}-3-cyano-4-methylthien-2-yl)-2-ethylbutanamide;  
N-[3-cyano-5-(5-isobutyl-1,3,4-oxadiazol-2-yl)-4-methylthien-2-yl]-2-ethylbutanamide;  
N-[5-(4-tert-butyl-1,3-oxazol-2-yl)-3-cyano-4-methylthien-2-yl]-2-ethylbutanamide;  
N-{3-cyano-5-[4-(2,4-dichlorobenzyl)-1,3-oxazol-2-yl]-4-methylthien-2-yl}-2-ethylbutanamide;  
N-(3-cyano-4-methyl-5-pyridin-4-ylthien-2-yl)-2-ethylbutanamide;  
N-{3-cyano-5-[(2,4-dichlorobenzyl)(3,3-dimethylbutyl)amino]-4-methylthien-2-yl}-2-ethylbutanamide;  
N-{5-[benzyl(isopropyl)amino]-3-cyano-4-methylthien-2-yl}-2-ethylbutanamide;  
N-{3-cyano-5-[(2,4-dichlorobenzyl)(isopropyl)amino]-4-methylthien-2-yl}-2-ethylbutanamide;  
N-[3-cyano-5-(diisobutylamino)-4-methylthien-2-yl]-2-ethylbutanamide;  
N-{5-[benzyl(isobutyl)amino]-3-cyano-4-methylthien-2-yl}-2-ethylbutanamide;  
N-{3-cyano-5-[(2,4-dichlorobenzyl)(isobutyl)amino]-4-methylthien-2-yl}-2-ethylbutanamide;  
N-{3-cyano-5-[(2,4-dichlorophenyl)(hydroxy)methyl]-4-methylthien-2-yl}-2-ethylbutanamide;  
N-(3-cyano-5-{[(2,4-dichlorobenzyl)(isobutyl)amino]methyl}-4-methylthien-2-yl)-2-ethylbutanamide;  
N-[3-cyano-4-methyl-5-(4-phenylpiperazin-1-yl)thien-2-yl]-2-ethylbutanamide;  
tert-butyl 4-{4-cyano-5-[(2-ethylbutanoyl)amino]-3-methylthien-2-yl}piperazine-1-carboxylate;  
N-[3-cyano-4-methyl-5-(4-pyridin-2-ylpiperazin-1-yl)thien-2-yl]-2-ethylbutanamide;  
N-[5-(4-benzylpiperazin-1-yl)-3-cyano-4-methylthien-2-yl]-2-ethylbutanamide;  
N-{3-cyano-5-[4-(2,4-dichlorobenzyl)piperazin-1-yl]-4-methylthien-2-yl}-2-ethylbutanamide;  
and  
N-(5-{[(4-chlorobenzyl)oxy]methyl}-3-cyano-4-methylthien-2-yl)-2-ethylbutanamide, as well as the pharmaceutically acceptable salts and solvates thereof.

16. (currently amended) A pharmaceutical composition which is comprised of a compound in accordance with claim [[1]] 19 in combination with a pharmaceutically acceptable carrier.

17. (Withdrawn - currently amended) A method of treating type 2 diabetes mellitus in a mammalian patient in need of such treatment, comprising administering to said patient a compound in accordance with claim [[1]] 19 in an amount that is effective to treat type 2 diabetes mellitus.

18. (Withdrawn - currently amended) A method of preventing or delaying the onset of type 2 diabetes mellitus in a mammalian patient in need thereof, comprising administering to said patient a compound in accordance with claim [[1]] 19 in an amount that is effective to prevent or delay the onset of type 2 diabetes mellitus.

19. (New) A compound represented by formula I:



or a pharmaceutically acceptable salt or solvate thereof wherein:

$R^1$  is selected from the group consisting of: H,  $C_{1-10}$ alkyl, Aryl, Heteroaryl and Heterocyclyl,

said alkyl, Aryl, Heteroaryl and Heterocyclyl being optionally substituted with one to four substituents independently selected from  $R^6$ ;

$R^2$  represents  $NR^4R^5$ ,

$R^3$  is selected from the group consisting of:  $C_{1-10}$ alkyl and Aryl, said alkyl and Aryl being optionally substituted with one to four substituents independently selected from  $R^6$ ;

$R^4$  is selected from H and  $C_{1-10}$ alkyl,

$R^5$  is  $C_{1-10}$ alkyl having 1-2  $R^6$  groups attached;

$R^6$  is independently selected from the group consisting of halo,  $C_{1-7}$ alkyl, Aryl, Heteroaryl, Heterocyclyl,  $OR^7$ ,  $SR^7$ ,  $S(O)_mR^8$ ,  $S(O)_2OR^8$ ,  $S(O)_mNR^7R^8$ ,  $NO_2$ ,  $NR^7R^8$ ,  $O(CR^9R^{10})_nNR^7R^8$ ,  $C(O)R^8$ ,  $CO_2R^7$ ,  $CO_2(CR^9R^{10})_nCONR^7R^8$ ,  $OC(O)R^8$ ,  $CN$ ,  $C(O)NR^7R^8$ ,  $NR^7C(O)R^8$ ,  $OC(O)NR^7R^8$ ,  $NR^7C(O)OR^8$ ,  $NR^7C(O)NR^8R^9$ ,  $CR^7(NOR^8)$ ,  $(CR^9R^{10})_n$ -Aryl,  $(CR^9R^{10})_n$ -Heteroaryl,  $(CR^9R^{10})_n$ -Heterocyclyl,  $CF_3$  and  $OCF_3$ ;

wherein m is 0, 1 or 2 and n is an integer from 1 to 7, and the alkyl, Heterocyclyl, Aryl and Heteroaryl groups and portions are optionally substituted with 1-4 substituents selected from a group independently selected from  $R^{11}$ ;

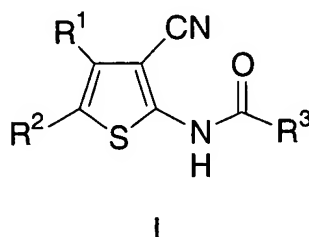
R<sup>7</sup>, R<sup>9</sup> and R<sup>10</sup> are independently selected from the group consisting of: H, C<sub>1-7</sub>alkyl, Aryl, Ar-C<sub>1-10</sub>alkyl and mono-, di- and tri- halo substituted Ar-C<sub>1-10</sub>alkyl,

or one R<sup>9</sup> and one R<sup>10</sup> are taken together with the atoms to which they are attached and any intervening atoms and represent a ring of 3 to 8 members containing 0-2 heteroatoms independently selected from O, S and N;

R<sup>8</sup> is selected from the group consisting of: C<sub>1-10</sub> alkyl, Aryl and C<sub>1-10</sub>alkyl-Aryl; and

R<sup>11</sup> is selected from the group consisting of: halo, CN, C<sub>1-4</sub>alkyl, Aryl, CF<sub>3</sub> and OH.

20. (New) A compound represented by formula I:



or a pharmaceutically acceptable salt or solvate thereof wherein:

R<sup>1</sup> is selected from the group consisting of: H, C<sub>1-10</sub>alkyl, Aryl, Heteroaryl and Heterocyclyl,

said alkyl, Aryl, Heteroaryl and Heterocyclyl being optionally substituted with one to four substituents independently selected from R<sup>6</sup>;

R<sup>2</sup> represents C<sub>1-10</sub> alkyl substituted with one to two R<sup>6</sup> groups;

R<sup>3</sup> is selected from the group consisting of: C<sub>1-10</sub>alkyl and Aryl, said alkyl and Aryl being optionally substituted with one to four substituents independently selected from R<sup>6</sup>;

R<sup>4</sup> is selected from the group consisting of: H, C<sub>1-10</sub>alkyl, Aryl, Heteroaryl, Heterocyclyl, said alkyl, Aryl, Heteroaryl, and Heterocyclyl being optionally substituted with one to four substituents independently selected from R<sup>6</sup>;

R<sup>5</sup> is selected from the group consisting of: C<sub>1-10</sub>alkyl, Aryl, Heteroaryl and Heterocyclyl, said alkyl, cycloalkyl, Aryl Heteroaryl, and Heterocyclyl being optionally substituted with one to four substituents independently selected from R<sup>6</sup>;

or alternatively, R<sup>4</sup> and R<sup>5</sup> are taken together with the atoms to which they are attached and represent a ring of 5 to 8 members containing 0-2 heteroatoms independently selected from oxygen, sulfur and nitrogen, and optionally substituted with one to four substituents independently selected from R<sup>6</sup>;

each R<sup>6</sup> is independently selected from the group consisting of: OR<sup>7</sup>, Aryl, mono-halophenyl and di-halophenyl

and when R<sup>2</sup> is other than C<sub>1-10</sub> alkyl, R<sup>6</sup> is independently selected from the group wherein m is 0, 1 or 2 and n is an integer from 1 to 7, and the alkyl, Heterocyclyl, Aryl and Heteroaryl groups and portions are optionally substituted with 1-4 substituents selected from a group independently selected from R<sup>11</sup>;

R<sup>7</sup>, R<sup>9</sup> and R<sup>10</sup> are independently selected from the group consisting of: H, C<sub>1-7</sub>alkyl, Aryl, Ar-C<sub>1-10</sub>alkyl and mono-, di- and tri- halo substituted Ar-C<sub>1-10</sub>alkyl,

or one R<sup>9</sup> and one R<sup>10</sup> are taken together with the atoms to which they are attached and any intervening atoms and represent a ring of 3 to 8 members containing 0-2 heteroatoms independently selected from O, S and N;

R<sup>8</sup> is selected from the group consisting of: C<sub>1-10</sub> alkyl, Aryl and C<sub>1-10</sub>alkyl-Aryl; and

R<sup>11</sup> is selected from the group consisting of: halo, CN, C<sub>1-4</sub>alkyl, Aryl, CF<sub>3</sub> and OH.

21. (new) A pharmaceutical composition which is comprised of a compound in accordance with claim 20 in combination with a pharmaceutically acceptable carrier.

22. (new) A method of treating type 2 diabetes mellitus in a mammalian patient in need of such treatment, comprising administering to said patient a compound in accordance with claim 20 in an amount that is effective to treat type 2 diabetes mellitus.

23. (new) A method of preventing or delaying the onset of type 2 diabetes mellitus in a mammalian patient in need thereof, comprising administering to said patient a compound in accordance with claim 20 in an amount that is effective to prevent or delay the onset of type 2 diabetes mellitus.